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ABSTRACT

The assessment of secondary school students' learning which results from experienced-based public school programs is associated with three types of problems: (1) psychological--educational practitioners may fear the evaluation process: (2) conceptual--including unclear requirements for student outcomes, lack of appropriate strategies for achieving these outcomes, unclear relationships between short- and long-term outcomes, and the need for a research framework in which to view the outcomes: and (3) operational--selection of variables, research design, and appropriate tests. Before evaluating an experiential learning program, it is useful to review the theoretical literature, previous studies, and previously reported test instruments. The evaluation design should consider planned and incidental learning: the relationship between short- and long-term objectives: the relationship between learning processes, program delivery, and outcomes: and the variety of settings in which learning occurs. Naturalistic evaluation approaches are recommended: the evaluation should report outcomes by participant characteristics and should include supplemental case studies. Recent developments of interest include dissemination about effective programs, research on and evaluation of experiential learning, and new assessment techniques. (GDC)

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EXPERIENCE-BASED LEARNING AND ASSESSMENT IN PUBLIC SCHOOL SYSTEMS

by

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INTRODUCTION

Since 1970 seven national panels have reviewed American secondary education. In each case, one of the major concerns expressed by these panels has been the tendency for our schools to keep young people from having educational experiences which lead to the development of a sense of adult responsibility. In response to these challenges and the desire of many young people to engage in meaningful learning environments, hundreds of experience-based learning programs have emerged throughout the country in both public and private schools. Often these are referred to as experiential learning programs. As used in this presentation, experiential learning refers to a process of learning gained from both planned and unplanned experiences which involve youthful learners in meaningful activities and relationships with adults in the community. The learner is helped by another person to examine the meaning and implications of these experiences for their future growth. James Coleman (1973) contrasts action-based experiential learning with "knowledge assimilation" in which a teacher passes on a fixed amount of knowledge to students.

In a recent review of evaluation findings of experiential learning programs done for the Office of Assistant Secretary for Policy, Evaluation and Research, U.S. Department of Labor (Owens, Owen and Druian, 1979), programs were classified into three types: work experience and training programs, career or vocational education progrms and noncareer-oriented experiential programs. These noncareer-oriented

programs take many forms including community improvement, service learning, outdoor education and cultural journalism. Although some experiential learning programs focus on a single student population such as low income students or gifted and talented students, others such as Foxfire or Experience-Based Career Education have been developed to appeal to the broadest spectrum of student backgrounds and ability.

Today I would like to share with you my perceptions of some assessment problems faced by experiential learning programs, a few possible solutions and a hopeful view of newly emerging developments that are designed to improve the evaluation of experiential learning.

ASSESSMENT PROBLEMS

To avoid presenting a laundry list of problems faced in assessing experiential learning, I propose that we consider these problems from a psychological, conceptual and operational perspective.

Psychological problems

Psychologically, many program staff involved in experiential learning programs are reluctant and sometimes fearful of having their activities assessed. In many ways their fears are well founded. During the late sixties, at the height of the accountability movement in education, there was strong pressure for external evaluations of new programs to assure the taxpayers and funding agencies that their money was being wisely invested. In an attempt to achieve simple cost-effectiveness ratios,

program outcomes were often assessed along only one or a few dimensions relying especially on standardized achievement tests or use of indicators such as the drop-out rate. Such practices not only magnified the weaknesses inherent in reliance on standardized tests but they caused educators to become suspecious of evaluators. Educational practitioners began to view the evaluation process only as an external mandate rather than as a process that could be an effective tool for helping them better understand and improve their programs. The accountability movement also reduced the initiative of many staff in conducting their own informal evaluations since they saw the outcomes of evaluation more in terms of risk and harm than in terms of positive feedback or constructive use.

Conceptual Problems

Conceptually, assessment of experiential learning programs has been hindered by four areas of inadequacy: 1) clarity regarding students outcomes,2) appropriate strategies for helping to achieve these outcomes, 3) relationships between short and long term outcomes and 4) a theoretical or research framework in which to view the outcomes.

The Experiential Education Guidelines developed last year at the National Center for Research in Vocational Education contains a set of sixteen guidelines proposed by a national advisory panel involving business, labor and community members. Their first guideline addresses the need for clear learner objectives. These guidelines cite three primary reasons for lack of clarity in stating objectives: "(1) difficulty in stating some of the learner outcomes; (2) preference for

flexibility; and (3) uncertainty in program design or execution (p. 8)." This advisory panel identified four potential benefits of clear learner outcomes: "experiences can be targeted to achieve objectives; experiential learners and persons interacting with them will have an understanding of their roles; learners will engage in activities purposefully and experiences will be meaningful and productive; programs can be evaluated properly" (p. 9).

Many evaluations of experiential education programs attempt to assess short-term student outcomes without relating them to longer term benefits beyond the school years or to a theoretical or research base. As a result, even when short term findings indicate significant student growth, there is no basis for interpreting these findings in terms of a larger framework. Fairlure to carefully assess program treatment strategies prevents evaluators from relating student outcomes to particular learning processes used in the program.

Another conceptual problem involved in assessing experiential learning programs is related to some essential characteristics associated with experiential learning. Such programs are usually individualized so that not only are students using different experiences to reach some common program objectives but often the objectives themselves are individualized thus, some students will be engaged in experiences leading to one outcome while other students may have selected other outcomes to work toward. Associated with this individualization of student objectives and learning strategies is the fact that another important ingredient of experiential

learning acknowledges that students, while learning in the community for example, will identify and gain some important outcomes that were not anticipated at the time they prepared a project or learning contract. These situations call for a different approach to assessment from that which may occur in a classroom after a teacher has spent a week teaching the entire class prespecified factual information about a particular period of American history.

Operational Problems

A number of authors have given considerable attention in recent years to the problems of implementing an evaluation. Therefore, within the context of this paper, I wish to mention only three problems--that of selecting variables, research designs and appropriate assessment techniques. In experiential learning programs student learning objectives tend to focus less on knowledge of factual content and more on applying higher level thinking skills, on attitudes and on personal and social development skills. Thus, the delineation of what project staff mean by good work attitudes, a sense of personal responsibility or decision making skills becomes important and is time consuming. This leads to the need for an evaluator to be selective in identifying a modest number of outcomes to assess.

Recognition of the fact that different students within an experiential learning program may be working to gain unique learner objectives rules out the appropriateness of most experimental research designs which assume all students in a program are receiving common instruction that is

not being taught to those in a control group. Thus the selection of evaluation designs that are sensitive to the unique characteristics of experiential learning programs is an important but often neglected aspect of evaluation. The unique learning objectives of individual students coupled with the vagueness of some of the statements of learner outcomes make the job of selecting or developing appropriate assessment techniques particularly difficult.

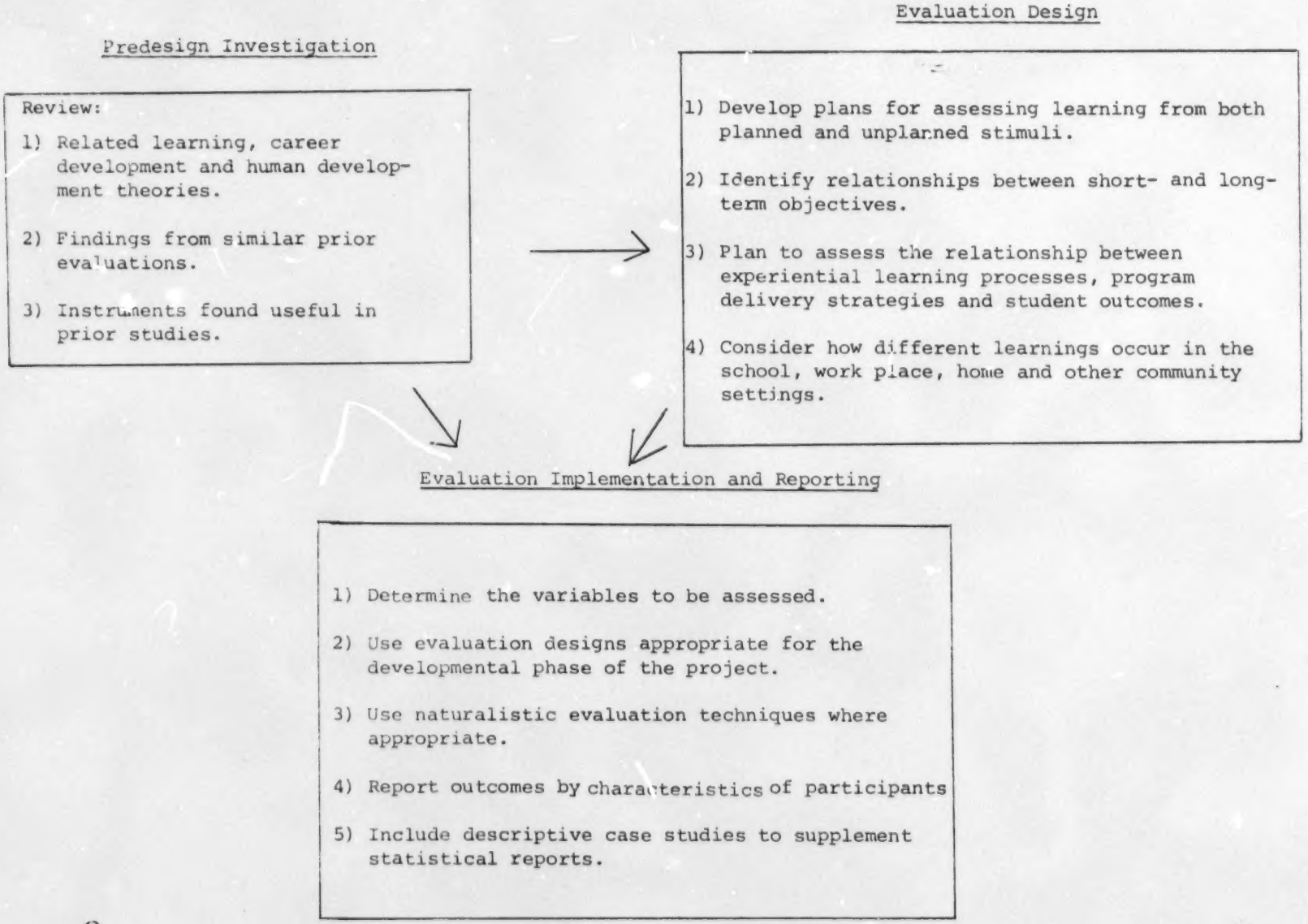
PROPOSED FRAMEWORK FOR ASSESSING EXPERIENTIAL LEARNING PROGRAMS

It is tempting to identify problems involved in assessing experiential learning programs, such as those cited in the first section of this paper, and then to conclude with pious platitudes that improvements are surely needed. Such an approach may be prudent but not very helpful. Instead I would like to propose a preliminary framework for conducting assessments of experiential learning programs. Such a proposal is made with genuine humility since I, in no way, anticipate that these ideas will solve all the problems already cited. The approaches proposed here are not meant to be another evaluation model but rather a recommended framework for consideration by people already familiar with general evaluation principles. Key elements of this framework are depicted in Chart 1 and are discussed in the remainder of this section of the paper.

Predesign Investigations

Prior to developing an evaluation plan for an experiential learning program, it is useful to study factors both external and internal to the

Chart 1: Framework for Evaluating Experiential Learning Programs


Predesign Investigation
Review:
1) Related learning, career development and human development theories.
2) Findings from similar prior evaluations.
3) Instruments found useful in prior studies.
Evaluation Design
1) Develop plans for assessing learning from both planned and unplanned stimuli.
2) Identify relationships between short- and long-term objectives.
3) Plan to assess the relationship between experiential learning processes, program delivery strategies and student outcomes.
4) Consider how different learnings occur in the school, work place, home and other community settings.
Evaluation Implementation and Reporting
1) Determine the variables to be assessed.
2) Use evaluation designs appropriate for the developmental phase of the project.
3) Use naturalistic evaluation techniques where appropriate.
4) Report outcomes by characteristics of participants
5) Include descriptive case studies to supplement statistical reports.

project. External factors include a review of some theories that may help organize and establish relationships among the separate objectives and student outcomes likely to be explored in the evaluation. Examples of such theories include social learning theory (Bandura, 1978), attribution theory (Bar-Tal, 1978) and motivation theory (Atkinson, 1964). A second area worth pursuing is that of evaluation findings resulting from prior programs similar to the one to be evaluated. In this respect it is equally important to determine which outcomes have been found not affected by such programs as to find which have shown significant changes. The third type of information useful before preparing an evaluation plan is the names and characteristics of evaluation techniques or instruments that have been used to assess outcomes similar to those expected in the program to be evaluated. As with program objectives, it is important to know which evaluation instruments revealed significant student gains and which ones did not. In the recent evaluation synthesis of K-12 career education programs sponsored by USOE Office of Career Education during 1975-76, Deborah Bonnet (1977, p. 60) identified, for example, a commercially available instrument of career maturity that has revealed no significant growth in 32 out of 34 evaluation studies Nevertheless, it continues to be widely used.

Designing the Evaluation

It has become fashionable for evaluation critics to attack goal statements and behavioral outcomes of many educational programs for lack of precision and coherence. Freeberg (1976), in writing about youth work

training programs, has stated that "Instead of verifiable procedures, the prescriptions provided for specifying training objectives and associated measures appear to begin and end with purely consensual or rational decisions, usually leading to a laundry list of recommended performance outcomes that somehow appeal to the particular writer. (p. 537)." In contrast, Freeberg borrows from criterion theory to recommend: 1) multiple behavioral indices, especially in the initial phases of criterion development, 2) specification of criteria along a temporal continuum to include short-term, intermediate and long-term measures and 3) concurrent and predictive validity (the relevance of a criterion to others obtained at the same time and in the future).

In evaluating experiential learning programs where much of the learning takes place in an individualized manner at a community setting it appears important to not only assess predesigned criteria, developed in the manner proposed by Freeberg, but also to be alert to assessing learning resulting from unplanned events which are experienced by the learner and reflected upon by the student and learning coordinator or teacher. An example of an unplanned stimulus for learning can occur in a situation where a student shows up late several days at a job site he or she was exploring and gets told by the employer not to return. An open discussion on this experience by a student and learning coordinator can produce new insights to help the young person modify both attitudes and future behavior.

Traditionally, employment and training programs have assessed whether a student has gained job entry skills, gained employment in the particular occupation and the salary received. More recently, researchers have stressed the need for also assessing occupational adaptability and transferable skills (Pratzner, 1978) that facilitate a person's ability to function successfully across a variety of careers and areas of adult life. Those involved in career education are faced with broader outcomes that include improved self-concept, work values, decision-making skills, use of leisure time and awareness of means available for continuing and recurrent education (Hoyt, 1978).

Service learning programs have focused on helping students to learn concern for others, ability to work with others, realistic attitudes toward different types of people and self-motivation to learn. participate and achieve (Hedin, 1979). Clearly the list is unending and thus a critical element of the evaluator's role is to determine which objectives are central to the program under investigation and which have at least a fair chance of being achieved.

While it is important to look at learner outcomes, it is equally important to describe the delivery strategies being used to help students achieve these objectives. In the past, the delivery strategies have been generally ignored or described in broad terms such as career explorations and career counseling. In addition to depicting these strategies in a more concrete way, it would be useful to assess the experiential learning processes involved. In a recent research study based on a social learning theory framework, Owens and Owen (1979) identified a number of

characteristics of experiential learning that high school students in eight Experience-Based Career Education projects identified as important reasons why a particular community experience was an excellent or poor learning experience. Characteristics associated most with excellent learning experiences were, in descending order of importance:

1. Trying out tasks
2. Being given real responsibility
3. Listening and talking with people at community sites
4. Receiving clear directions to follow
5. Engaging in challenging tasks
5. Applying learning to new things
6. Adult encouragement for doing tasks well
7. Learning technical words and language associated with a career of interest
8. Freedom to explore areas not planned in advance
9. Personal interest of a supervisor
10. Encouragement from family or friends
11. Knowing ahead of time what would be expected
12. Discussions of the student's experiences with staff and other students

Characteristics students associated most with particular community experiences resulting in little or no learning were, in decending order of importance:

1. Boring tasks
2. No personal opportunity to try out the work

3. Too much repetition of an activity
4. No opportunity to explore other areas of interest
5. No opportunity to apply learning to new things
6. Not knowing what would be expected
7. No recognition from other workers for doing tasks well
8. No opportunity to observe or talk to workers at the site
9. Lack of clear directions to follow
10. No opportunities to discuss my experiences with other students
11. Being too closely supervised

Perceived importance of factors related to positive or negative learning experiences was not affected by student's sex. However, a significantly greater proportion of young females than males identified a better understanding of others as a learning outcome from their EBCE community site experiences. Students of both sexes felt that a major outcome of their community experiences was a better understanding of a specific career of interest.

More detailed research on some of these characteristics is likely to reveal important factors that motivate a young person to learn and to lead to recommended program improvements. As evaluators become more experienced in assessing special features of community-based experiential learning programs, as compared to school-based programs, they will also give attention to the diverse environments for learning that include the school, work place, home and other community settings (such as participation in a Boy Scouts of America program). The environments

become critical to study in some cases because learning in one setting may reinforce or contradict learning in other settings. An example where confusion occurs is found when a young woman learns from her parents that her place as a future mother is in the home while at school she is encouraged to explore nontraditional careers.

At the expense of adding to the frustrations of an already overwhelmed reader wondering how he or she could possibly consider all of these aspects of student outcome evaluation, we feel it is useful to remind evaluators that, for some projects, it is equally important to assess program effects on the staff and on participating community resource persons. For example, it has been found, over several years, that participating employers see as benefits for their participation in Experience-Based Career Education not only a chance to help students but, also, an opportunity to informally screen potential employees, to become better acquainted with the thinking of young people and gain prestige as a result of explaining their jobs to interested young people (Owens, Haenn amd Fehrenbacher 1975).

Evaluation Implementation and Reporting

After engaging in the activities suggested above as part of the evaluation planning process it is necessary to touch base with reality in recognizing that the quickest way to an ineffective evaluation is to attempt to evaluate everything. Criteria are important for determining what variables to select for an intensive study, which may be explored in a more casual fashion and which go beyond the resources available. In

selecting variables to be evaluated, the evaluator needs to consider factors such as: 1) legislative or administrative mandates related to the project, 2) the project's objectives, 3) areas likely to affect program modifications, 4) prior findings from related evaluations, 5) variables related to a theoretical explanation of why a program works, 6) the availability of valid measures to adequately assess potential variables and 7) variables important for policy studies.

Persons reviewing evaluations of high school experiential learning programs have often commented on the inadequate research designs employed. Usually these criticisms reduce to a plea to employ an experimental research design such as that involving pre and posttesting of an experimental and control group. The pros and cons involving the appropriateness of such designs have been thoroughly discussed elsewhere (Borouch 1977, Guba, 1978). The point we wish to make here is that decisions regarding appropriate designs need to be considered in light of the developmental cycle of a project and the purposes for the evaluation. In the case of most new programs, at least one year is needed to try out various delivery strategies, debug them and to establish a stable program. Often a descriptive case study design is most appropriate at this time. A second program phase may be needed to test the ability of the program to achieve its promised outcomes. In this phase an experimental or quasi-experimental design (Campbell and Stanley, 1973) or naturalistic approach (Guba, 1978) may be useful. Some programs progress to a third phase in which the project's delivery strategies have stabilized and the interest shifts to considerations about expanding the program or disseminating it

to other districts. At this time people are usually interested in the longer-term impact of the program on former students and in issues related to the transportability of the project (i.e. program costs, staff training required and ways of selling the concept to other educators and the community). These concerns sometimes lead to graduate follow-up studies and cost-effectiveness studies.

Programs based on experiential learning attempt to place young people in "real world" environments in which they learn by directly engaging in activities and then reflecting on the meaning of their experiences. Such approaches are particularly appropriate for helping young people gain important competencies needed to be successful adults. Ideally, an effective evaluation of an experiential program would determine: 1) what learning took place, 2) how the learning occurred, 3) the different meanings that individuals attach to their experiences and 4) the ability learners have gained to apply their new attitudes, knowledge and skills to new situations. Unfortunately, the author has not discovered an evaluation report that addresses all four areas.

Since experiential learning, as we have defined it, occurs in a real world environment rather than in the artificial environment often found in a classroom, it might be expected that naturalistic techniques would primarily be used to assess student performance. Unfortunately, most of the evaluation we reviewed relied on paper and pencil instruments to assess learner outcomes. Applied performance tests, designed to measure performance in a naturalistic setting, have not yet gained wide usage.

Examples where such applied performance tests would be useful are in completing a job application, typing a business letter, demonstrating current life saving treatments in a first aid class, participating in a job interview simulation and in applying reading and mathematics to everyday work problems.

Examples of applied performance tests evolving from an experiential education program can be found in the Experience-Based Career Education Program (EBCE) developed through the Northwest Regional Educational Laboratory. As a part of this EBCE program students master "survival skills" identified by the local community as essential for successful adult life in that community. At the EBCE demonstration site in Tigard, Oregon, for example, the community representatives identified the following 13 competencies: transacting business on a credit basis; maintaining a checking account in good order; providing adequate insurance for self, family and possessions; filing state and federal income tax; budgeting time and money effectively, maintaining good physical health and making appropriate use of leisure time; responding appropriately to fire, police and physical health emergencies; participating in the electoral process; understanding the basic structure and function of local, state and federal government; explaining one's legal rights and responsibilities; making appropriate use of public agencies; making application for employment and successfully holding a job; and operating and maintaining an automobile. In most of these competencies, procedures have been identified for relevant volunteers of the community to certify successful completion of the competency. For example, a bank official certifies the checking account competency while

an internal revenue service agent certifies the tax competency employing actual procedures and forms used by citizens in the community.

In addition to applied performance measures, a number of other nontesting evaluation techniques have been used by educators interested in evaluating student or program outcomes of experiential learning programs. These techniques include analysis of anecdotal records, checklists, content analysis of documents, drawings, interviews, journals, observations, peer nominations, photography, physical traces, questionnaires, rating scales, role play, self inventories, simulations and tape and videotape recordings. A description and examples of these techniques are shown in the appendix to this paper. Although each of these techniques has its limitations, increased confidence in findings results when two or more evaluation techniques used to measure the same dimension produce supporting evidence.

So far we have presented a framework for conceptualizing, designing and implementing evaluations of experiential learning programs. A final consideration we wish to discuss is that of reporting evaluation findings.

Evaluation reports of experiential learning programs have seldom discussed program findings in relation to the characteristics of the learners involved. Seldom is it shown whether program delivery strategies have a differential effect depending on the learner's sex, race, age, socioeconomic status or general achievement level. Likewise it would be useful, when possible, to relate experiential learning

characteristics to program delivery strategies and student outcomes. For example, positive reinforcement by community resource people encountered in career explorations may be a key influence on some youth in deciding which particular career field to enter. Such findings can help us go beyond learning that a student has made a career choice, to understanding predominant influences that led to that learning.

Statistical reports seldom communicate the flavor of what experiential elements or delivery systems were particularly effective or ineffective in contributing to one or more learner outcomes. Carefully planned and documented student case study procedures have been developed (Fehrenbacher, Owens and Haenn, in process) that complement statistical findings in conveying to staff, students and community people the individualized treatment that should be part of an experiential learning program.

RECENT AND EMERGING DEVELOPMENTS

At this point you may feel that the framework proposed above falls far short of solving many of the problems discussed in the first section of this paper. I would agree with you! Fortunately, there are some recent or emerging developments giving hope for the future that may be of interest to you. These developments include those involved in: 1) the dissemination of information about effective experiential learning programs, 2) research and evaluation on experiential learning and 3) new assessment techniques.

Program Dissemination

In 1967 the National Commission on Resources for Youth (Kohler and Dollar, 1976) was formed in New York to encourage development and national dissemination of youth participation programs. This Commission has helped many school districts interested in developing programs in which young people have direct involvement in planning and operating programs that provide such personal services as tutoring of younger students or community improvement projects. The Commission maintains and disseminates descriptions about many such programs. A similar clearninghouse of information was established in 1978 at the Northwest Regional Educational Laboratory (NWREL) to serve the Pacific Northwest. This clearninghouse, called the Experiential Learning Information Exchange, will provide information about programs, resource people and research related to experiential learning.

In 1978 a Collaborative for Experiential Learning was established by Murray Durst to serve as a link for persons interested in experiential education and has begun teacher assistance centers at six colleges or universities around the country. These centers help teachers develop and use experiential learning approaches with their classes.

Research and Evaluation

The Education and Work Program of NWREL and staff at the National Center for Research in Vocational Education at the Ohio State University are engaged in research on essential characteristics associated with experiential learning. Both agencies have developed a review of the

literature on experiential learning (Coleman, 1978 and Druian, Owen and Owens, in press). The NWREL study also involves a description of common elements and processes of experiential learning determined from interviews with staff of five or six nationally recognized programs such as work experience programs, Foxfire, Experience-Based Career Education, Outward Bound and the Explore Scouts Program of the Boy Scouts of America.

Last year a national evaluation of approximately 30 secondary public and private experiential learning programs was initiated at the Center for Research on Youth Development at the University of Minnesota (Conrad and Hedin, 1979). This national evaluation is using student survey instruments and project case studies to determine the setting, learning processes and outcomes resulting from these experiential learning programs.

A Research on Evaluation project at NWREL that began last year is designed to develop new evaluation methodology. The project is currently examining other desciplines such as architecture, law, geography, investigative journalism, operations research, philosophy and poetic criticism as metaphors for educational evaluation. Some of these disciplines use techniques that may have important payoff for the assessment of experiential learning programs.

Assessment Techniques

In addition to the work of the Clearinghouse for Applied Performance Testing at NWREL in developing and disseminating information on

assessment techniques, the National Center for Research in Vocational Education has developed three handbooks on assessment under funding provided by the National Institute of Education. One is intended to assist practioners to develop local instruments, another deals with the use of unobtrusive measures in program evaluation and the third is a description of recent assessment instruments developed by researchers around the country that would be useful in experiential learning programs. These three handbooks are due for release soon.

The problems and challenges faced in effectively assessing competencies involved in experiential learning programs are enormous. The state of the art indicates to me that we have much to learn about such assessment. With the work and support of you and others involved in nontraditional testing techniques I feel that we can make a significant contribution to public and private education in the years ahead.

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